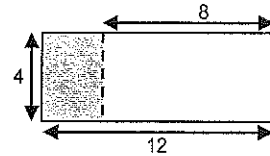


**Unit
9****Written Practice Assessment****Part A**

1. Write 2 number sentences for finding the area of the shaded part of the rectangle.

Sentence 1: (_____ - _____) \times _____ = 16

Sentence 2: (_____ \times _____) - (_____ \times _____) = 16



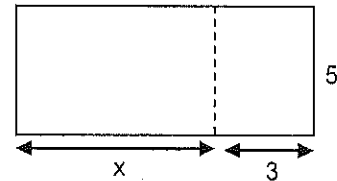
2. The area of the rectangle shown at the right is 45 units^2 .

- a. Write a number sentence that you can use to find the value of x .

Number sentence _____

- b. Solve for x . Show your work.

$x =$ _____ units



Solve each equation. Show your work.

3. $3x - 4 = x + 2$

4. $10 + 4y = 34 - 2y$

Solution _____

Solution _____

5. One formula for converting between Celsius and Fahrenheit temperatures is $F = (1.8 \times C) + 32$. Convert the following:

a. $-25^\circ\text{C} =$ _____ $^\circ\text{F}$

b. $85^\circ\text{F} =$ _____ $^\circ\text{C}$

6. Circle the formula that is equivalent to $F = (15 \times C) - 8$.

$F + 8 = 15C$

$8F = 15C$

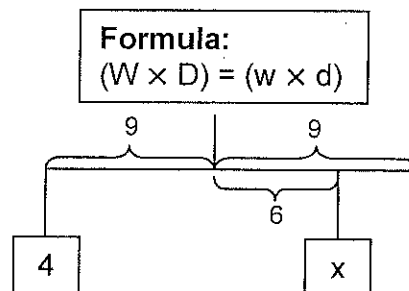
$F - 8 = 15C$

**Unit
9****Written Practice Assessment** *continued*

7. The mobile shown at the right is in balance.
The fulcrum of the mobile is the center point of the rod.

What is the weight of the object to the right of the fulcrum?

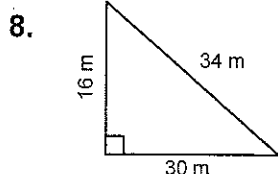
_____ units



Use the formulas given to solve the problems below. Record the formula you use to solve each problem.

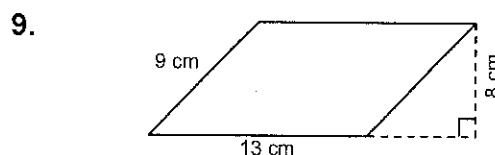
Area	
Parallelogram	$A = b \times h$
Triangle	$A = \frac{1}{2} \times b \times h$
Circle	$A = \pi \times r^2$

Volume	
Rectangular Prism	$V = B \times h$
Cylinder	$V = \pi \times r^2 \times h$
Sphere	$V = \frac{4}{3} \times \pi \times r^3$



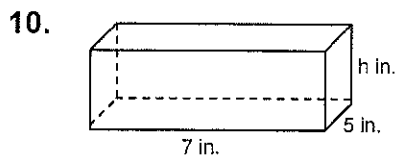
Area = _____
(unit)

Formula = _____



Area = _____
(unit)

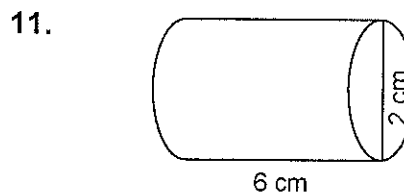
Formula = _____



$$V = 140 \text{ in.}^3$$

$h =$ _____
(unit)

Formula = _____

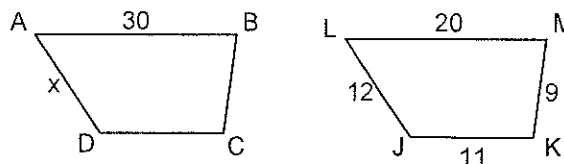


Volume = _____
(unit)

Formula = _____

**Unit
9****Written Practice Assessment** *continued*

12. Figures $ABCD$ and $LMJK$ are similar. Figure $ABCD$ is an enlargement of $LMJK$.



- a. The size-change factor that describes the enlargement is _____ X.
- b. Find the length of side x . $x =$ _____
- c. Calculate the perimeter of $LMJK$. Then explain how you can use the size-change factor to find the perimeter of $ABCD$.
 Perimeter of $LMJK =$ _____ units. Explanation: _____
- _____
- _____

Solve each equation. Show your work.

13. $12 = 4(x - 6)$

14. $3 = \frac{1}{4}(n - 6)$

Solution _____

Solution _____

15. Using a trial-and-error-method, find an approximate solution to the equation $x^2 + 2 = 59$. Record your results in the table below. Use the suggested number to get started. Stop when your value for $x^2 + 2$ is within 1 of 59.

x	x^2	$x^2 + 2$	Compare $x^2 + 2$ to 59
8	64	66	$66 > 59$

**Part B**

16. There are 55 kids in Art Club. One out of every 5 kids was in Art Club last year. How many members were on the team?

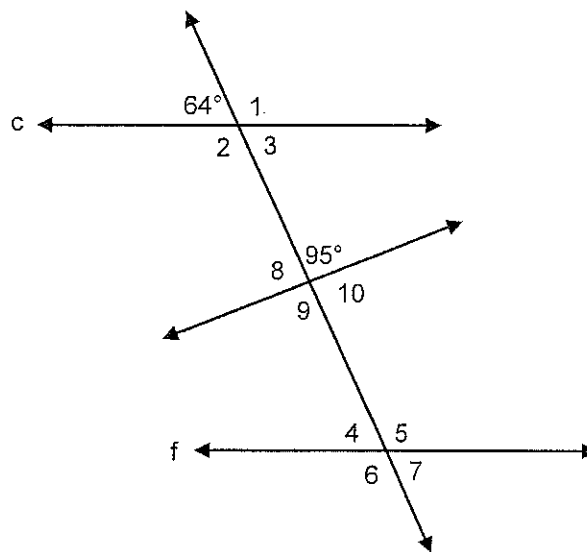
There were _____ members last year.

17. Without using a protractor, find the measure of each numbered angle.

Lines c and f are parallel.

- a. List all the angles in the figure at the right that measure 116° .

- b. List all the angles that measure 85° .



Use the order of operations to evaluate each expression.

18. $6 + 6 \div 2 \times 6 =$ _____

19. $7 \times 8 - 4^5 + 3 =$ _____

21. Circle the equation that describes the relationship between the numbers in the table at the right.

A. $y = 3x + 1$

B. $y = \frac{x}{3} + 1$

C. $y = \frac{1}{3}(x - 3)$

D. $x = 3y - 3$

x	y
3	0
4	$\frac{1}{3}$
5	$\frac{2}{3}$
6	1
7	$1\frac{1}{3}$

Unit
9

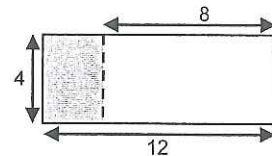
Written Practice Assessment

Part A

1. Write 2 number sentences for finding the area of the shaded part of the rectangle.

Sentence 1: $(12 - 8) \times 4 = 16$

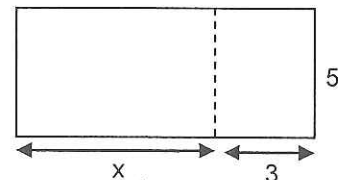
Sentence 2: $(4 \times 12) - (4 \times 8) = 16$



2. The area of the rectangle shown at the right is 45 units^2 .

- a. Write a number sentence that you can use to find the value of x .

Number sentence $5(x+3) = 45$



- b. Solve for x . Show your work.

$x = 6$ units

Solve each equation. Show your work.

3. $3x - 4 = x + 2$

$$\begin{aligned} 2x - 4 &= 2 \\ 2x &= 6 \\ x &= 3 \end{aligned}$$

Solution $x = 3$

4. $10 + 4y = 34 - 2y$

$$\begin{aligned} 10 + 6y &= 34 \\ 6y &= 24 \\ y &= 4 \end{aligned}$$

Solution $y = 4$

5. One formula for converting between Celsius and Fahrenheit temperatures is $F = (1.8 \times C) + 32$. Convert the following:

a. $-25^\circ\text{C} = -13^\circ\text{F}$

b. $85^\circ\text{F} = 29.7^\circ\text{C}$

6. Circle the formula that is equivalent to $F = (15 \times C) - 8$.

$F + 8 = 15C$

$8F = 15C$

$F - 8 = 15C$

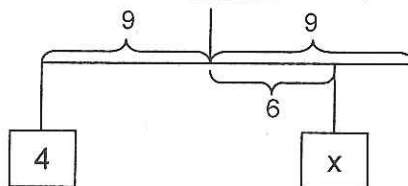
Unit
9Written Practice Assessment *continued*

7. The mobile shown at the right is in balance.
The fulcrum of the mobile is the center point of the rod.

What is the weight of the object to the right of the fulcrum?

6 units

Formula:
 $(W \times D) = (w \times d)$



Use the formulas given to solve the problems below. Record the formula you use to solve each problem.

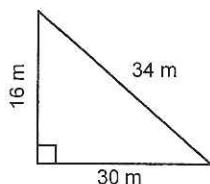
Area

Parallelogram	$A = b \times h$
Triangle	$A = \frac{1}{2} \times b \times h$
Circle	$A = \pi \times r^2$

Volume

Rectangular Prism	$V = B \times h$
Cylinder	$V = \pi \times r^2 \times h$
Sphere	$V = \frac{4}{3} \times \pi \times r^3$

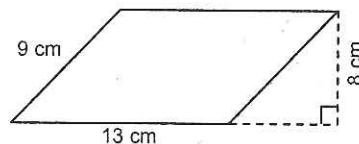
8.



Area = 240 m²
(unit)

Formula = $A = \frac{1}{2} \cdot b \cdot h$

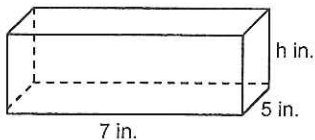
9.



Area = 104 cm²
(unit)

Formula = $A = b \cdot h$

10.

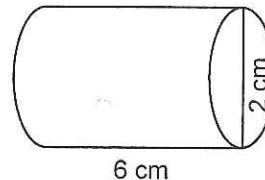


$$V = 140 \text{ in.}^3$$

$h =$ 4 in
(unit)

Formula = $V = B \times h$

11.

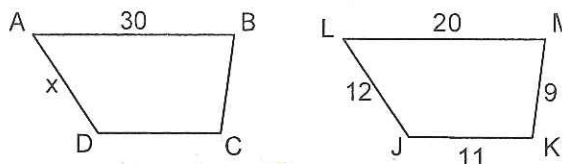


Volume = 18.84 cm³ (using 3.14)
(unit)

Formula = $V = \pi \cdot r^2 \cdot h$

Unit
9Written Practice Assessment *continued*

12. Figures $ABCD$ and $LMJK$ are similar. Figure $ABCD$ is an enlargement of $LMJK$.



- a. The size-change factor that describes the enlargement is $\frac{3}{2}$ or $1\frac{1}{2}$ X.
- b. Find the length of side x . $x = 18$ units
- c. Calculate the perimeter of $LMJK$. Then explain how you can use the size-change factor to find the perimeter of $ABCD$.

Perimeter of $LMJK = 52$ units. Explanation: Use the size change factor on the perimeter $52 \times \frac{3}{2} = 78$ units

Solve each equation. Show your work.

13. $12 = 4(x - 6)$

$$12 = 4x - 24$$

$$36 = 4x$$

$$9 = x$$

Solution $x = 9$

14. $3 = \frac{1}{4}(n - 6)$

$$\frac{12}{4} = \frac{1}{4}n - \frac{6}{4}$$

$$\frac{18}{4} = \frac{1}{4}n$$

$$\frac{74}{4} = n$$

$$18 = n$$

Solution $n = 18$

15. Using a trial-and-error-method, find an approximate solution to the equation $x^2 + 2 = 59$. Record your results in the table below. Use the suggested number to get started. Stop when your value for $x^2 + 2$ is within 1 of 59.

x	x^2	$x^2 + 2$	Compare $x^2 + 2$ to 59
8	64	66	$66 > 59$
7	49	51	$51 < 59$
7.5	56.25	58.25	$<$
7.7	59.29	61.29	$>$
7.53	56.7	58.7	$<$



Part B

16. There are 55 kids in Art Club. One out of every 5 kids was in Art Club last year. How many members were ~~on the team?~~ in the club

There were 11 members last year.

17. Without using a protractor, find the measure of each numbered angle.

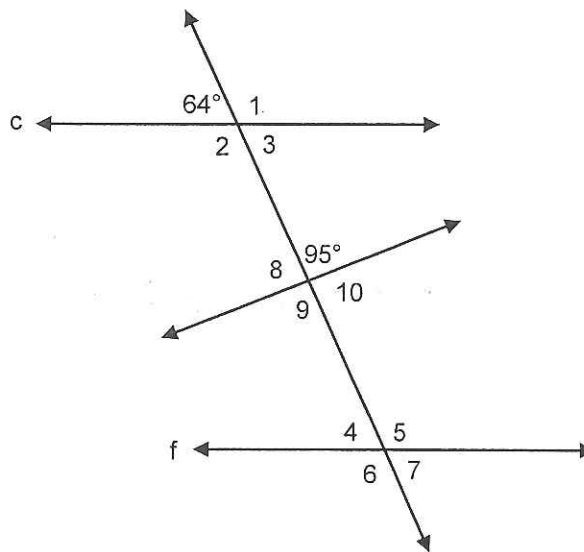
Lines c and f are parallel.

- a. List all the angles in the figure at the right that measure 116° .

$\angle 1, \angle 2, \angle 5, \angle 6$

- b. List all the angles that measure 85° .

$\angle 8, \angle 10$



Use the order of operations to evaluate each expression.

18. $6 + 6 \div 2 \times 6 =$ 24

19. $7 \times 8 - 4^5 + 3 =$ -965

21. Circle the equation that describes the relationship between the numbers in the table at the right.

A. $y = 3x + 1$

B. $y = \frac{x}{3} + 1$

C. $y = \frac{1}{3}(x - 3)$

D. $x = 3y - 3$

x	y
3	0
4	$\frac{1}{3}$
5	$\frac{2}{3}$
6	1
7	$1\frac{1}{3}$